Iowa Department of Natural Resources
Title V Operating Permit

*Name of Permitted Facility: Climax Molybdenum Company
Facility Location: 2598 Highway 61, Fort Madison, IA 52627
Air Quality Operating Permit Number: 03-TV-001R1
Expiration Date: October 27, 2013

Permit Renewal Application Deadline: April 27, 2013

EIQ Number: 92-0970
Facility File Number: 56-02-021

Responsible Official
Name: William Mitchell
Title: General Manager
Mailing Address: P.O. Box 220, Fort Madison, IA 52627
Phone #: (319) 463-2201

Permit Contact Person for the Facility
Name: Scott Ickes
Title: Environmental Manger
Mailing Address: P.O. Box 220, Fort Madison, IA 52627
Phone #: (319) 463-2224

This permit is issued in accordance with 567 Iowa Administrative Code Chapter 22, and is issued subject to the terms and conditions contained in this permit.

For the Director of the Department of Natural Resources

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Douglas A. Campbell, Supervisor of Air Operating Permits Section Date

*** The IEA Generators (ST55 – ST59) included in this Title V permit are owned by Industrial Energy Applications (IEA). These generators have been determined to be a support facility of Climax Molybdenum Company, therefore the two facilities are considered to be one stationary source.**

Table of Contents

Abbreviations

acfm.....actual cubic feet per minute
CFR.....Code of Federal Regulation
CE .....control equipment
CEM.....continuous emission monitor
^{o}F.....degrees Fahrenheit
EIQ.....emissions inventory questionnaire
EP.....emission point
EU .....emission unit
gal/hr. .....gallons per hour
gr./dscf .....grains per dry standard cubic foot
gr./100 cf.....grains per one hundred cubic feet
IAC.....Iowa Administrative Code
IDNR.....Iowa Department of Natural Resources
MVAC.....motor vehicle air conditioner
NAICS.....North American Industry Classification System
NSPS.....new source performance standard
ppmv .....parts per million by volume
lb./hr.....pounds per hour
lb./MMBtu .....pounds per million British thermal units
SCC.....Source Classification Codes
scfm.....standard cubic feet per minute
SIC .....Standard Industrial Classification
TPY.....tons per year
USEPA.....United States Environmental Protection Agency

Pollutants
PM.....particulate matter
PM_{10}.....particulate matter ten microns or less in diameter
SO_2.....sulfur dioxide
NO_x .....nitrogen oxides
VOC.....volatile organic compound
CO.....carbon monoxide
HAP.....hazardous air pollutant

I. Facility Description and Equipment List

Facility Name: Climax Molybdenum Company
Permit Number: 03-TV-001R1

Facility Description: Industrial Inorganic Chemical Production (SIC 2819)

Equipment List

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
EP1	R13	Sulfuric Acid Tank/Car Load/Unload West	02-A-657-S1
EP2	R14	Sulfuric Acid Tank/Car Load/Unload North	02-A-658
EP4	R3	Rail Car Thawing	NA
EP6	T1	Sulfuric Acid Storage Tank North	02-A-659
EP7	T2	Sulfuric Acid Storage Tank South	02-A-660
ST1	B1	Boiler #1	99-A-833
ST2	B2	Boiler #2	99-A-834
ST3	B3	Fire Pump Diesel Engine	99-A-835
ST6	E1	MoO_3 Unload to Storage Bin From Bags and Barrels	74-A-223
ST7	E2	Pure Oxide Product Screening & Packaging	75-A-016
ST8	E3	ADM/PO Claciner #1	75-A-017-S6
ST9	E5	Downgrade Calciner #1 & Product Bagger	97-A-137-S2
	E11	Downgrade Calciner #2 & Product Bagger	
ST34	E6	Downgrade Calciner #1 Combustion	06-A-842
	E12	Downgrade Calciner #2 Combustion	
ST10	E7	AHM/ADM Dryer	78-A-053
ST11	E8	Sodium Molybdate Drying, Screening & Packaging	85-A-090
ST13	R1	MoS_2 Transfer from Pit to Storage Bin	75-A-256
ST14	R2	MoS_2 Rail Car Unload	75-A-257
ST15	R4	MoO_3 Transfer from Roaster to Bin	75-A-255
ST16	R5	Transfer MoS2 from Storage to Roaster	75-A-259
ST17	R6	Briquetting	89-A-021
ST18	R8	Lime Dust Unload	75-A-015
ST19	R9	Lime Transfer to Silo	75-A-258
ST20	R10	Roaster #1	95-A-273-S1
	R11	Roaster #2	
ST21	R10	Roaster #1 (Bypass Stack)	95-A-273-S1
	R11	Roaster #2 (Bypass Stack)	
ST43	R15	Roaster #1 Burner	02-A-626-S1
ST51	R16	Roaster #2 Burner	02-A-627-S1
ST45	R15	Roaster #1 Heat-Up	02-A-906
	R16	Roaster #2 Heat-Up	

Equipment List

Emission Point Number	Emission Unit Number	Emission Unit Description	IDNR Construction Permit Number
ST23	W2	Sublimed Oxide Furnace #1	95-A-279-S1
ST24	W8	Sublimed Oxide Furnace #2	95-A-280-S1
ST25	W3	Molysulfide Kiln	94-A-001-S3
	W4	Molysulfide Kiln Afterburner	
ST26	W5	Molysulfide Kiln Burner	NA
ST27	W6	Molysulfide Kiln (Inert Gas Generator)	NA
ST28	W7	AOM Dryer	94-A-253-S1
ST31	R12	Sulfur Furnace Startup Burner	02-A-625
ST32	E10	ADM Dryer	95-A-281
ST33	B9	Boiler #3	96-A-692
ST60	SX1	Rhenium Solvent Extraction A Train E1	01-A-998-S1
	SX2	Rhenium Solvent Extraction A Train E2	
	SX3	Rhenium Solvent Extraction B Train E1	
	SX4	Rhenium Solvent Extraction B Train E2	
	SX5	Rhenium Solvent Extraction S1	
	SX6	Rhenium Solvent Extraction S2	
	SX7	Rhenium Solvent Extraction Barren Organic Tank	
	SX8	Rhenium Solvent Loaded Organic Tank	
	SX9	Rhenium Solvent Extraction Raffinate Tank	
	SX10	Rhenium Solvent Extraction Loaded Solution Tank	
ST55-GEN5	GEN5	Alliant Generator #5	02-A-632
ST56-GEN4	GEN4	Alliant Generator #4	02-A-631
ST57-GEN3	GEN3	Alliant Generator #3	02-A-630
ST58-GEN2	GEN2	Alliant Generator #2	02-A-629
ST59-GEN1	GEN1	Alliant Generator #1	02-A-628

Insignificant Activities Equipment List

Insignificant Emission Unit Number	Insignificant Emission Unit Description
T3	Acid Plant Fuel Oil Tank
T4	Oil/Water Separating Tank (12,000 gallons)
T5	Main Fuel Oil Tank (300,0000 gallons)
T6	Acid Plant Diesel Tank
T7	MoS_2 Waste Oil Tank
CT1	Acid Plant Cooling Tower
CT2	Utilities Cooling Tower

II. Plant-Wide Conditions

Facility Name: Climax Molybdenum Company
Permit Number: 03-TV-001R1

Permit conditions are established in accord with 567 Iowa Administrative Code rule 22.108

Permit Duration

The term of this permit is: Five (5) years from permit issuance
Commencing on:
Ending on:

Amendments, modifications and reopenings of the permit shall be obtained in accordance with 567 Iowa Administrative Code rules 22.110 - 22.114. Permits may be suspended, terminated, or revoked as specified in 567 Iowa Administrative Code Rules 22.115.

Emission Limits
Unless specified otherwise in the Source Specific Conditions, the following limitations and supporting regulations apply to all emission points at this plant:

Opacity (visible emissions): 40% opacity
Authority for Requirement: 567 IAC 23.3(2)"d"

Sulfur Dioxide (SO_2): 500 parts per million by volume
Authority for Requirement: 567 IAC 23.3(3)"e"

Particulate Matter:
No person shall cause or allow the emission of particulate matter from any source in excess of the emission standards specified in this chapter, except as provided in 567 – Chapter 24. For sources constructed, modified or reconstructed after July 21, 1999, the emission of particulate matter from any process shall not exceed an emission standard of 0.1 grain per dry standard cubic foot of exhaust gas, except as provided in 567 – 21.2(455B), 23.1(455B), 23.4(455B) and 567 – Chapter 24.
For sources constructed, modified or reconstructed prior to July 21, 1999, the emission of particulate matter from any process shall not exceed the amount determined from Table I, or amount specified in a permit if based on an emission standard of 0.1 grain per standard cubic foot of exhaust gas or established from standards provided in 23.1(455B) and 23.4(455B).
Authority for Requirement: 567 IAC 23.3(2)"a"

Fugitive Dust: Attainment and Unclassified Areas - No person shall allow, cause or permit any materials to be handled, transported or stored; or a building, its appurtenances or a construction haul road to be used, constructed, altered repaired or demolished, with the exception of farming operations or dust generated by ordinary travel on unpaved public roads, without taking reasonable precautions to prevent particulate matter in quantities sufficient to create a nuisance, as defined in Iowa Code section 657.1, from becoming airborne. All persons, with the above exceptions, shall take reasonable precautions to prevent the discharge of visible emissions of fugitive dusts beyond the lot line of the property on which the emissions originate. The highway authority shall be responsible for taking corrective action in those cases where said authority has received complaints of or has actual knowledge of dust conditions which require abatement pursuant to this subrule. Reasonable precautions may include, but not limited to, the following procedures.

1. Use, where practical, of water or chemicals for control of dusts in the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.
2. Application of suitable materials, such as but not limited to asphalt, oil, water or chemicals on unpaved roads, material stockpiles, race tracks and other surfaces which can give rise to airborne dusts.
3. Installation and use of containment or control equipment, to enclose or otherwise limit the emissions resulting from the handling and transfer of dusty materials, such as but not limited to grain, fertilizers or limestone.
4. Covering at all times when in motion, open-bodied vehicles transporting materials likely to give rise to airborne dusts.
5. Prompt removal of earth or other material from paved streets or to which earth or other material has been transported by trucking or earth-moving equipment, erosion by water or other means.

Authority for Requirement: 567 IAC 23.3(2)"c"

Compliance Plan

The owner/operator shall comply with the applicable requirements listed below. The compliance status is based on information provided by the applicant.

Unless otherwise noted in Section III of this permit, Climax Molybdenum Company is in compliance with all applicable requirements and shall continue to comply with all such requirements. For those applicable requirements which become effective during the permit term, Climax Molybdenum shall comply with such requirements in a timely manner.
Authority for Requirement: 567 IAC 22.108(15)

III. Emission Point-Specific Conditions

Facility Name: Climax Molybdenum Company
Permit Number: **03-TV-001R1**

Emission Point ID Numbers: EP1 & EP2

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EP1	R13	Sulfuric Acid Tank /Car Load/Unload West	NA	H_2SO_4	228 tons/hr.	02-A-657-S1
EP2	R14	Sulfuric Acid Tank/Car Load/Unload North	NA	H_2SO_4	45.93 tons/hr.	02-A-658

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: Iowa DNR Construction Permits 02-A-657-S1 & 02-A-658
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/scf
Authority for Requirement: Iowa DNR Construction Permits 02-A-657-S1 & 02-A-658
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: Iowa DNR Construction Permits 02-A-657-S1 & 02-A-658
567 IAC 23.3(3)"e"

[(1)]An exceedance of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Emission Point Characteristics

The emission points shall conform to the specifications listed below.

Emission Point	Stack Height, (ft, from the ground)	Stack Opening (inches, dia.)	Exhaust Flow Rate (scfm)	Stack Temperature (^{o}F)	Discharge Type	Authority For Requirement
EP1	12*	8	Displacement	70	Vertical Unobstructed	02-A-657-S1
EP2	12	6	1,500	70	Vertical Obstructed	02-A-658

* There is no stack on this unit. Emissions are released from the top of the rail car with the air displaced during loading.

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: EP4

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R3	Rail Car Thawing	NA	Natural Gas	3.28 MMBtu/hr.	NA

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.8 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: EP6 & EP7

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
EP6	T1	Sulfuric Acid Storage Tank North	NA	Sulfuric Acid	375,000 gallons	02-A-659
EP7	T2	Sulfuric Acid Storage Tank South	NA	Sulfuric Acid	375,000 gallons	02-A-660

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: Iowa DNR Construction Permits 02-A-659 & 02-A-660
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: Iowa DNR Construction Permits 02-A-659 & 02-A-660
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: Iowa DNR Construction Permits 02-A-659 & 02-A-660
567 IAC 23.3(3)"e"

[(1)] An exceedance of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Emission Point Characteristics
Each emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 12
Stack Opening, (inches, dia.): 6
Exhaust Flow Rate (scfm): 1,500 when loading
Exhaust Temperature (°F): 70
Discharge Style: Vertical Obstructed
Authority for Requirement: Iowa DNR Construction Permits 02-A-659 & 02-A-660

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: ST1 & ST2

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
ST1	B1	Boiler #1	NA	Natural Gas #2 Fuel Oil	30 MMBtu/hr. 260 gal/hr.	99-A-833
ST2	B2	Boiler #2	NA	Natural Gas #2 Fuel Oil	30 MMBtu/hr. 260 gal/hr.	99-A-834

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: Iowa DNR Construction Permits 99-A-833 and 99-A-834
567 IAC 23.3(2)"d"

Pollutant: PM_{10}
Emission Limit(s): 0.5 lb/hr
Authority for Requirement: Iowa DNR Construction Permits 99-A-833 and 99-A-834

Pollutant: Particulate Matter
Emission Limit(s): 0.6 lb/MMBtu
Authority for Requirement: Iowa DNR Construction Permits 99-A-833 and 99-A-834
567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 19.0 lb/hr, 2.5 lb/MMBtu
Authority for Requirement: Iowa DNR Construction Permits 99-A-833 and 99-A-834
567 IAC 23.3(3)"b"(2)

Pollutant: Sulfur Dioxide (SO_2) – When burning Natural Gas
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 5.3 lb/hr
Authority for Requirement: Iowa DNR Construction Permits 99-A-833 and 99-A-834

[(1)] An exceedance of the indicator opacity of "no visible emissions" will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Hours of operation:

1. The combined hours of operation for Boiler #1 and Boiler #2 on #2 fuel oil shall not exceed 1,752 hours per year.

Process throughput:

1. These units shall operate on either natural gas or #2 fuel oil.
2. The sulfur content of the fuel used shall not exceed 0.5% by weight.
3. Boiler #1 (permit 99-A-833) and Boiler #2 (permit 99-A-834) shall not operate simultaneously on #2 fuel oil.

Reporting & Record keeping:

Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. The type of fuel used in these emission units and the sulfur content of the fuel used in these emission units.
2. When each emission unit is operating on #2 fuel oil the date, the time of startup, and time of shutdown shall be kept.
3. After the first twelve months of operation determine the total combined hours of operation that Boiler #1 and Boiler #2 operated on #2 fuel oil on a rolling-12-month basis for each month of operation.

Authority for Requirement: Iowa DNR Construction Permits 99-A-833 and 99-A-834

Emission Point Characteristics

Each emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 55
Stack Opening, (inches, dia.): 33.6
Exhaust Flow Rate (scfm): 6,800
Exhaust Temperature (°F): 560
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permits 99-A-833 and 99-A-834

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST3

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
B3	Fire Pump Diesel Engine	NA	#2 Fuel Oil	13.2 gal/hr.	99-A-835

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: Iowa DNR Construction Permit 99-A-835
567 IAC 23.3(2)"d"

Pollutant: PM_{10}
Emission Limit(s): 0.5 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 99-A-835

Pollutant: Particulate Matter
Emission Limit(s): 0.6 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.5 lb/hr, 2.5 lb/MMBtu
Authority for Requirement: Iowa DNR Construction Permit 99-A-835
567 IAC 23.3(3)"b"(2)

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 8.0 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 99-A-835

[(1)] An exceedance of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Hours of operation:

1. This unit shall not operate more than 50 hours per year.

Process throughput:

1. This unit shall operate on diesel fuel only.
2. The sulfur content of the fuel used shall not exceed 0.5% by weight.

Reporting & Record keeping:

Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. The date, the hours of operation, type of fuel used, and the sulfur content of the fuel used.
2. After the first twelve months of operation determine the total hours of operation for this emission unit on a rolling-12-month basis for each month of operation.

Authority for Requirement: Iowa DNR Construction Permit 99-A-835

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 14.5
Stack Opening, (inches, dia.): 6
Exhaust Flow Rate (scfm): 400
Exhaust Temperature (°F): 450
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 99-A-835

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST6

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E1	MoO_3 Unload to Storage Bin from Bags & Barrels	CD1: Baghouse	MoO_3	12 tons/hr.	74-A-223

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: Iowa DNR Construction Permit 74-A-223
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 21.2 lb/hr[(1)]
Authority for Requirement: Iowa DNR Construction Permit 74-A-223
567 IAC 23.3(2)"a"

[(1)] Based on a process weight rate of 11.6 tons/hr.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST7

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E2	AHM/ADM Product Screening & Packaging	CD2: Baghouse	AHM/ADM	1.13 tons/hr.	75-A-016

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: Iowa DNR Construction Permit 75-A-016
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 5.14 lb/hr[(1)]
Authority for Requirement: Iowa DNR Construction Permit 75-A-016
567 IAC 23.3(2)"a"

[(1)] Based on a process weight rate of 1.4 tons/hr.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST8[(1)]

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E3	ADM/PO Calciner #1	CD3: Baghouse	ADM/MoO_3 Natural Gas	1.69 tons/hr. 3.9 MMBtu/hr.	75-A-017-S6

[(1)] This stack is the common discharge for ADM/PO Calciner #1 and the Ammonia Vent Header. The Ammonia Vent Header includes:

A. Process Tanks – crystallizer feed tanks (2), dissolve tanks (3), adjustment tanks (2), liquor storage tanks (6), neutralizer tank (1), aqua ammonia tank (1), sodium molybdate tanks (3)
B. Process equipment exhaust hoods – filter exhaust hoods (5), dryer hoods (2), centrifuge hoods (5)
C. Process equipment – evaporator, absorber cooler, sodium molybdate steam stripper

All tanks listed above will contain liquid composed of water, ammonia, and molybdenum. The sodium molybdate tanks contain water, molybdenum, and sodium hydroxide. The only potential emissions from these units are ammonia emissions which are not regulated by the department at this time.

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %[(2)]
Authority for Requirement: Iowa DNR Construction Permit 75-A-017-S6
567 IAC 23.3(2)"d"

Pollutant: PM_{10}
Emission Limit(s): 2.44 lb/hr.
Authority for Requirement: Iowa DNR Construction Permit 75-A-017-S6

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/scf
Authority for Requirement: Iowa DNR Construction Permit 75-A-017-S6
567 IAC 23.3(2)"a"

[(2)] An exceedance of the indicator opacity of **no visible emissions** will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. Calciner EU3 is limited to a maximum throughput of 80,880 pounds per day of Pure Oxide Calcined (PO).

Reporting & Record keeping:

Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. Record the amount of PO produced in Calciner EU3 in pounds per day.

Authority for Requirement: Iowa DNR Construction Permit 75-A-017-S6

Emission Point Characteristics

The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 110.6
Stack Opening, (inches, dia.): 30
Exhaust Flow Rate (scfm): 12,000
Exhaust Temperature (°F): 250
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 75-A-017-S6

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST9

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E5	Downgrade Calciner #1 & Product Bagging	CD21: Baghouse CD24: Baghouse	Downgrade	0.20 tons/hr.	97-A-137-S2
E11	Downgrade Calciner #2 & Product Bagging		Downgrade	0.20 tons/hr.	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%[(1)]
Authority for Requirement: Iowa DNR Construction Permit 97-A-137-S2
567 IAC 23.3(2)"d"

Pollutant: PM_{10}
Emission Limit(s): 1.10 lb/hr.
Authority for Requirement: Iowa DNR Construction Permit 97-A-137-S2

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/scf
Authority for Requirement: Iowa DNR Construction Permit 97-A-137-S2
567 IAC 23.3(2)"a"

[(1)] An exceedance of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 86.6
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (scfm): 1,260
Exhaust Temperature (°F): 340
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 97-A-137-S2

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☒ **No** ☐

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST34

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E6	Downgrade Calciner #1 Combustion	NA	Natural Gas	2.5 MMBtu/hr.	06-A-842
E12	Downgrade Calciner #2 Combustion	NA	Natural Gas	2.5 MMBtu/hr.	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: Iowa DNR Construction Permit 06-A-842
567 IAC 23.3(2)"d"

Pollutant: PM_{10}
Emission Limit(s): 0.30 lb/hr.
Authority for Requirement: Iowa DNR Construction Permit 06-A-842

Pollutant: Particulate Matter
Emission Limit(s): 0.30 lb/hr., 0.6 lb/MMBtu
Authority for Requirement: Iowa DNR Construction Permit 06-A-842
567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: Iowa DNR Construction Permit 06-A-842
567 IAC 23.3(3)"e"

[(1)] An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedences continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 73.7
Stack Opening, (inches, dia.): 12
Exhaust Flow Rate (scfm): 475
Exhaust Temperature (°F): 150
Discharge Style: Vertical without rain cap or with Unobstructing rain cap
Authority for Requirement: Iowa DNR Construction Permit 06-A-842

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST10

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E7	AHM/ADM Dryer	CD4: Baghouse	AHM/ADM	1.10 tons/hr.	78-A-053

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: Iowa DNR Construction Permit 78-A-053
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 4.37 lb/hr[(1)]
Authority for Requirement: Iowa DNR Construction Permit 78-A-053
567 IAC 23.3(2)"a"

[(1)] Based on a process weight rate of 1.10 tons/hr.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST11

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E8	$NaMoO_3$/ADM/AOM Drying, Screening, & Packaging	CD5: Baghouse	$NAMoO_3$/ADM/AOM, Natural Gas	0.30 tons/hr., 0.4 MMBtu/hr.	85-A-090

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 12.1 lb/hr[(1)]
Authority for Requirement: Iowa DNR Construction Permit 85-A-090
567 IAC 23.3(2)"a"

[(1)] Based on a process weight rate of 5 tons/hr.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST13

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R1	MoS_2 Transfer from Pit to Storage Bin	CD6: Baghouse	MoS_2	90 tons/hr.	75-A-256-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 1.58130 grams/sec, 12.5 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 75-A-256-S1

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST14

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R2	MoS_2 Rail Car Unload	CD7: Baghouse	MoS_2	100 tons/hr.	75-A-257-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 1.58130 grams/sec, 12.5 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 75-A-257-S1

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST15

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R4	MoO_3 Transfer from Roaster to Bin	CD8: Baghouse	MoO_3	5 tons/hr.	75-A-255-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.70875 grams/sec, 5.6 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 75-A-255-S1

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST16

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R5	Transfer MoS2 from Storage to Roaster	CD9: Baghouse	MoS_2	90 tons/hr.	75-A-259-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.90783 grams/sec, 7.2 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 75-A-259-S1

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST17

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R6	Briquetting	CD10: Baghouse	MoO_3, Natural Gas	1 ton/hr., 1 MMBtu/hr.	89-A-021

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 4.10 lb/hr[(1)]
Authority for Requirement: Iowa DNR Construction Permit 89-A-021
567 IAC 23.3(2)"a"

[(1)] Based on a process weight rate of 1 ton/hr.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST18

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R8	Lime Dust Unload	CD11: Baghouse	Limestone	5 tons/hr.	75-A-015

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: Iowa DNR Construction Permit 75-A-015
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 12 lb/hr[(1)]
Authority for Requirement: Iowa DNR Construction Permit 75-A-015
567 IAC 23.3(2)"a"

[(1)] Based on a process weight rate of 5 tons/hr.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST19

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R9	Lime Transfer to Silo	CD12: Baghouse	Limestone	20 tons/hr.	75-A-258

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate 30.5 lb/hr[(1)]
Authority for Requirement: Iowa DNR Construction Permit 75-A-258
567 IAC 23.3(2)"a"

[(1)] Based on a process weight rate of 20 tons/hr.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST20

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R10	Roaster #1	CD13: Sulfuric Acid Plant	MoS_2	17.08 tons/hr.	95-A-273-S1
R11	Roaster #2		MoS_2	17.08 tons/hr.	
R15	Roaster #1 Burner		Natural Gas	19.124 MMBtu/hr.	
R16	Roaster #2 Burner		Natural Gas	19.124 MMBtu/hr.	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter (as Sulfuric Acid)
Emission Limit(s): 0.017 gr/scf, 5.63 lb/hr, 24.64 ton/yr
Authority for Requirement: Iowa DNR Construction Permit 95-A-273-S1

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 105 lb/hr, 459.9 ton/yr
Authority for Requirement: Iowa DNR Construction Permit 95-A-273-S1

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 150
Stack Opening, (dia.): 5'6"
Exhaust Flow Rate (scfm): 37,700
Exhaust Temperature (°F): 180
Discharge Style: NA
Authority for Requirement: Iowa DNR Construction Permit 95-A-273-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST21

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R10	Roaster #1 (Bypass Stack)	NA	MoS_2	NA	NA
R11	Roaster #2 (Bypass Stack)		MoS_2	NA	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Periods of operation:
1. The emergency stack (ST21) shall be used less than five (5) times per year.

Authority for Requirement: DNR Project #00-235 (DNR letter dated February 4, 2002, See Appendix A of this permit)

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.
1. Record the number of times that the emergency stack (ST21) is used each year.

Authority for Requirement: 567 IAC 22.108(14)

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: ST43 & ST51

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
ST43	R15	Roaster #1 Burner	NA	Natural Gas	19.124 MMBtu/hr.	02-A-626-S1
ST51	R16	Roaster #2 Burner	NA	Natural Gas	19.124 MMBtu/hr.	02-A-627-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: Iowa DNR Construction Permits 02-A-626-S1 & 02-A-627-S1
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: Iowa DNR Construction Permits 02-A-626-S1 & 02-A-627-S1
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: Iowa DNR Construction Permits 02-A-626-S1 & 02-A-627-S1
567 IAC 23.3(3)"e"

[(1)] An exceedance of the indicator opacity of (25%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Hours of operation:

1. These emission units, R15 and R16, shall not operate more than 720 hours (each) per rolling twelve-month period.
2. These emission units shall be fired only on natural gas.

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. The permit holder, owner and operator of the facility shall maintain a record of the hours of operation for each emission unit, R15 & R16, for each month of operation.
2. The hours of operation for this emission unit shall be calculated and recorded by the permit holder, owner and operator of the facility on a twelve-month rolling basis, for each month of operation.

Authority for Requirement: Iowa DNR Construction Permits 02-A-626-S1 & 02-A-627-S1

Emission Point Characteristics
These emission points shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 99
Stack Opening, (inches, dia.): 36
Exhaust Flow Rate (scfm): 650
Exhaust Temperature (°F): 1000
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permits 02-A-626-S1 & 02-A-627-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST45

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R15	Roaster #1 Burner Heat-Up	NA	Natural Gas	19.124 MMBtu/hr.	02-A-906
R16	Roaster #2 Burner Heat-Up		Natural Gas	19.124 MMBtu/hr.	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: Iowa DNR Construction Permit 02-A-906
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.01 gr./dscf
Authority for Requirement: Iowa DNR Construction Permit 02-A-906

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: Iowa DNR Construction Permit 02-A-906
567 IAC 23.3(3)"e"

[(1)] An exceedance of the indicator opacity of (10%) will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:
1. This emission point shall only discharge the products of Natural Gas combustion.
Authority for Requirement: Iowa DNR Construction Permit 02-A-906

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 82
Stack Opening, (inches, dia.): 24
Exhaust Flow Rate (scfm): 9,300
Exhaust Temperature (°F): 450
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 02-A-906

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: ST23 & ST24

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
ST23	W2	Sublimed Oxide Furnace #1	CD19: Baghouse	MoO_3	0.76 tons/hr.	95-A-279-S1
ST24	W8	Sublimed Oxide Furnace #2	CD20: Baghouse	MoO_3	0.76 tons/hr.	95-A-280-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 1.5 lb/hr
Authority for Requirement: Iowa DNR Construction Permits 95-A-279-S1 & 95-A-280-S1

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Control equipment parameters:

1. Dust collected in the baghouses shall be discharged only into closed containers without creating additional air emissions.

Reporting & Record keeping:

Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. The owner shall follow the specific startup and shutdown procedures provided by the baghouse vendor and shall maintain a record of periods of startup, shutdown or malfunction.
2. The owner shall perform routine monitoring and routine maintenance according to vendor's specifications. A log of actual inspections, observations, and maintenance shall be made available to the IDNR personnel upon request.

Authority for Requirement: Iowa DNR Construction Permit 95-A-279-S1 & 95-A-280-S1

Emission Point Characteristics
Each emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 50
Stack Opening, (inches): 24 x 22
Exhaust Flow Rate (scfm): 10,600
Exhaust Temperature (°F): 105
Discharge Style: NA
Authority for Requirement: Iowa DNR Construction Permit 95-A-279-S1 & 95-A-280-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐
(Required for CD 19 and CD20)

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST25

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
W3	Molysulfide Kiln	See Emission Point Characteristics	MoS_2	0.82 tons/hr.	94-A-001-S3
W4	Molysulfide Kiln Afterburner		Natural Gas	3.1 MMBtu/hr.	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: Iowa DNR Construction Permit 94-A-001-S3
567 IAC 23.3(2)"d"

Pollutant: PM_{10}
Emission Limit(s): 0.38 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 94-A-001-S3

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/scf
Authority for Requirement: Iowa DNR Construction Permit 94-A-001-S3
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.38 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 94-A-001-S3

[(1)] An exceedance of the indicator opacity of 10% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Control equipment parameters:

1. The owner or operator shall maintain the control equipment according to manufacturer's specifications and maintenance schedule or per written facility specific operation and maintenance plan.

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.
1. The owner or operator shall maintain a record of all inspections/maintenance and any action resulting from the inspection/maintenance of the control equipment.

Authority for Requirement: Iowa DNR Construction Permit 94-A-001-S3

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 69
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (scfm): 1,910
Exhaust Temperature (°F): 95
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 94-A-001-S3

The following emission units exhaust through this emission point:

Emission Unit	Control Equipment
Molysulfide Kiln (W3)	Settling Pots (CD 41)
	Electrostatic Precipitator (CD 15) and Electrostatic Precipitator (CD 39) – both operating in parallel
	Afterburner (W4)
	Cooler (CD 42) or Cooler (CD 43) – only one operating at a time
	Baghouse (CD 16) or Baghouse (CD 40) – only one operating at a time
	Caustic Scrubber (CD 17)
Molysulfide Kiln Afterburner (W4)	Cooler (CD 42) or Cooler (CD 43) – only one operating at a time
	Baghouse (CD 16) or Baghouse (CD 40) – only one operating at a time
	Caustic Scrubber (CD 17)

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Stack Testing:

Pollutant - Opacity
Stack Test to be Completed by - within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date
Test Method - 40 CFR 60, Appendix A, Method 9
Authority for Requirement – Iowa DNR Construction Permit 94-A-001-S3

Pollutant – PM_{10}
Stack Test to be Completed by - within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date
Test Method - 40 CFR 51, Appendix M, 201A with 202*
Authority for Requirement – Iowa DNR Construction Permit 94-A-001-S3

Pollutant – Particulate Matter
Stack Test to be Completed by - within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date
Test Method - Iowa Compliance Sampling Manual Method 5
Authority for Requirement – Iowa DNR Construction Permit 94-A-001-S3

Pollutant – Sulfur Dioxide (SO_2)
Stack Test to be Completed by - within sixty (60) days after achieving maximum production rate and no later than one hundred eighty (180) days after the initial startup date
Test Method - 40 CFR 60, Appendix A, Method 6C
Authority for Requirement – Iowa DNR Construction Permit 94-A-001-S3

* Or approved alternative.

The owner of this equipment or the owner's authorized agent shall provide written notice to the Director, not less than 30 days before a required stack test or performance evaluation of a continuous emission monitor. Results of the test shall be submitted in writing to the Director in the form of a comprehensive report within 6 weeks of the completion of the testing. 567 IAC 25.1(7)

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐
(Required for CD 15, CD39, CD42, CD43, CD16, CD40, & CD17)

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST26

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
W5	Molysulfide Kiln Burner	NA	Natural Gas	0.8 MMBtu/hr.	NA

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.8 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST27

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
W6	Molysulfide Kiln (Inert Gas Generator)	NA	Natural Gas	0.47 MMBtu/hr.	NA

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.8 lb/MMBtu
Authority for Requirement: 567 IAC 23.3(2)"b"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv
Authority for Requirement: 567 IAC 23.3(3)"e"

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST28

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
W7	AOM Dryer	CD18: Baghouse	AOM	0.34 tons/hr.	94-A-253-S1

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 0%
Authority for Requirement: Iowa DNR Construction Permit 94-A-253-S1
567 IAC 23.3(2)"d"

Pollutant: PM_{10}
Emission Limit(s): 0.3 lb/hr
Authority for Requirement: Iowa DNR Construction Permit 94-A-253-S1

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/scf
Authority for Requirement: Iowa DNR Construction Permit 94-A-253-S1
567 IAC 23.3(2)"a"

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Control equipment parameters:

1. The associated air pollution control equipment (baghouse) shall be operated, maintained, and monitored according to the manufacturer's specifications and in a manner consistent with good air pollution control practice for minimizing emissions.

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. The date, hours of operation, and the AOM production rate.
2. After the first twelve (12) months of operation, determine the annual hours of operation and the annual AOM production rate. This shall be done on a rolling-12-month basis for each month of operation.
3. A maintenance record for the baghouse.

Authority for Requirement: Iowa DNR Construction Permit 94-A-253-S1

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 71
Stack Opening, (inches, dia.): 12
Exhaust Flow Rate (scfm): 4,140
Exhaust Temperature (°F): 180
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 94-A-253-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Opacity:
The facility shall check the opacity weekly during a period when the emission unit on this emission point is at or near full capacity and record the reading. Maintain a written record of the observation and any action resulting from the observation for a minimum of five years. Opacity shall be observed to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed corrective action will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective action does not return the observation to no visible emissions, then a Method 9 observation will be required. If an opacity >0 % is observed, this would be a violation and corrective action will be taken as soon as possible, but no later than eight hours from the Method 9 observation. If weather conditions prevent the observer from conducting an opacity observation, the observer shall note such conditions on the data observation sheet. At least three attempts shall be made to retake opacity readings at approximately 2-hour intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☒ **No** ☐

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Facility operation and maintenance plans must be sufficient to yield reliable data from the relevant time period that are representative of the source's compliance with the applicable requirements.

Facility operation and maintenance plans are to be developed by the facility within six(6) months of the issuance date of this permit and the data pertaining to the plan maintained on site for at least 5 years. The plan and associated recordkeeping provides documentation of this facility's implementation of its obligation to operate according to good air pollution control practice.

Good air pollution control practice is achieved by adoption of quality control standards in the operation and maintenance procedures for air pollution control that are comparable to industry quality control standards for the production processes associated with this emission point.

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST31

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
R12	Sulfur Furnace Startup Burner	NA	#2 Fuel Oil	300 gal/hr.	02-A-625

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %[(1)]
Authority for Requirement: Iowa DNR Construction Permit 02-A-625
567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/dscf
Authority for Requirement: Iowa DNR Construction Permit 02-A-625
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 2.5 lb/MMBtu
Authority for Requirement: Iowa DNR Construction Permit 02-A-625
567 IAC 23.3(3)"b"(2)

[(1)] An exceedance of the indicator opacity of 25% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Hours of operation:

1. This Emission Unit shall not operate more than 150 hours per rolling twelve-month period.

Process throughput:

1. This Emission Unit shall only use #2 Fuel Oil as a fuel.
2. This Emission Unit shall not use #2 Fuel Oil with a sulfur content greater than 0.05%, by weight.

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. The owner or operator shall maintain a record of the hours this Emission Unit operates, each instance of operation.
2. The owner or operator shall calculate a monthly total and a twelve-month rolling total of the hours this Emission Unit operated.
3. The owner or operator shall record or retain supplier's certification of sulfur content within the #2 Fuel Oil used in this Emission Unit.

Authority for Requirement: Iowa DNR Construction Permit 02-A-625

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 41
Stack Opening, (inches, dia.): 12
Exhaust Flow Rate (scfm): 8,800
Exhaust Temperature (°F): 1,500
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 02-A-625

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST32

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
E10	ADM Dryer	CD22: Baghouse	ADM	1.32 tons/hr.	95-A-281

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.019 gr/scf, 0.26 lb/hr, 1.14 ton/yr
Authority for Requirement: Iowa DNR Construction Permit 95-A-281

Operational Limits & Requirements
The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Control equipment parameters:
1. The owner shall follow the specific startup and shutdown procedures provided by the baghouse vendor and shall maintain a record of periods of startup, shutdown or malfunction.
2. Dust collected in the baghouse shall be discharged only into closed containers without creating additional air emissions.

Reporting & Record keeping:
Records shall be kept on site for at least five years and shall be available for inspection by the Department.
1. The owner shall perform routine monitoring and routine maintenance according to vendor's specifications. A log of actual inspections, observations, and maintenance shall be made available to the IDNR personnel upon request.

Authority for Requirement: Iowa DNR Construction Permit 95-A-281

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 76
Stack Opening, (inches, dia.): 10
Exhaust Flow Rate (acfm): 2,000
Exhaust Temperature (°F): 200
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 95-A-281

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☒ **No** ☐

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST33

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
B9	Boiler #3	NA	Natural Gas	22.4 MMBtu/hr.	96-A-692

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)
The emissions from this emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40 %
Authority for Requirement: 567 IAC 23.3(2)"d"

Pollutant: Particulate Matter
Emission Limit(s): 0.1 gr/scf, 0.31 lb/hr, 1.34 ton/yr
Authority for Requirement: Iowa DNR Construction Permit 96-A-692
567 IAC 23.3(2)"a"

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 500 ppmv, 0.01 lb/hr, 0.06 ton/yr
Authority for Requirement: Iowa DNR Construction Permit 96-A-692
567 IAC 23.3(3)"e"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 3.14 lb/hr, 13.74 ton/yr
Authority for Requirement: Iowa DNR Construction Permit 96-A-692

Pollutant: Volatile Organic Compounds (VOC's)
Emission Limit(s): 0.06 lb/hr, 0.27 ton/hr
Authority for Requirement: Iowa DNR Construction Permit 96-A-692

Pollutant: Carbon Monoxide (CO)
Emission Limit(s): 0.78 lb/hr, 3.43 ton/yr
Authority for Requirement: Iowa DNR Construction Permit 96-A-692

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 60
Stack Opening, (inches, dia.): 28
Exhaust Flow Rate (acfm): 7,330
Exhaust Temperature (°F): 500
Discharge Style: NA
Authority for Requirement: Iowa DNR Construction Permit 96-A-692

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Number: ST60

Associated Equipment

Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
SX1	Rhenium Solvent Extraction A Train E1	NA	Weak Acid/ Organic Solution	1185.6 lb/hr	01-A-998-S1
SX2	Rhenium Solvent Extraction A Train E2		Weak Acid/ Organic Solution	1185.6 lb/hr	
SX3	Rhenium Solvent Extraction B Train E1		Weak Acid/ Organic Solution	1185.6 lb/hr	
SX4	Rhenium Solvent Extraction B Train E2		Weak Acid/ Organic Solution	1185.6 lb/hr	
SX5	Rhenium Solvent Extraction S1		Weak Acid/ Organic Solution	157.8 lb/hr	
SX6	Rhenium Solvent Extraction S2		Weak Acid/ Organic Solution	157.8 lb/hr	
SX7	Rhenium Solvent Extraction Barren Organic Tank		Weak Acid/ Organic Solution	1000 gallons	
SX8	Rhenium Solvent Loaded Organic Tank		Weak Acid/ Organic Solution	1000 gallons	
SX9	Rhenium Solvent Extraction Raffinate Tank		Weak Acid/ Organic Solution	1000 gallons	
SX10	Rhenium Solvent Extraction Loaded Solution Tank		Weak Acid/ Organic Solution	1000 gallons	

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from this emission point shall not exceed the levels specified below.

There are no applicable emission limits for this emission point at this time.

Emission Point Characteristics
The emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 62
Stack Opening, (inches, dia.): 4
Exhaust Flow Rate (scfm): 200
Exhaust Temperature (°F): 90
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permit 01-A-998-S1

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements
The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

Emission Point ID Numbers: ST55-GEN5, ST56-GEN4, ST57-GEN3, ST58-GEN2, ST59-GEN1

Associated Equipment

Emission Point	Emission Unit	Emission Unit Description	Control Equipment	Raw Material	Rated Capacity	Construction Permit
ST55-GEN5	GEN5	Alliant Generator #5	NA	#2 Diesel Fuel Oil	116.03 gal/hr.	02-A-632
ST56-GEN4	GEN4	Alliant Generator #4		#2 Diesel Fuel Oil	116.03 gal/hr.	02-A-631
ST57-GEN3	GEN3	Alliant Generator #3		#2 Diesel Fuel Oil	116.03 gal/hr.	02-A-630
ST58-GEN2	GEN2	Alliant Generator #2		#2 Diesel Fuel Oil	116.03 gal/hr.	02-A-629
ST59-GEN1	GEN1	Alliant Generator #1		#2 Diesel Fuel Oil	116.03 gal/hr.	02-A-628

Applicable Requirements

Emission Limits (lb./hr, gr./dscf, lb./MMBtu, % opacity, etc.)

The emissions from each emission point shall not exceed the levels specified below.

Pollutant: Opacity
Emission Limit(s): 40%(1)
Authority for Requirement: Iowa DNR Construction Permits 02-A-628, 02-A-629, 02-A-630 02-A-631, 02-A-632
567 IAC 23.3(2)"d"

Pollutant: PM-10
Emission Limit(s): 1.87 lb/hr
Authority for Requirement: Iowa DNR Construction Permits 02-A-628, 02-A-629, 02-A-630 02-A-631, 02-A-632

Pollutant: Particulate Matter
Emission Limit(s): 1.87 lb/hr
Authority for Requirement: Iowa DNR Construction Permits 02-A-628, 02-A-629, 02-A-630 02-A-631, 02-A-632

Pollutant: Sulfur Dioxide (SO_2)
Emission Limit(s): 0.82 lb/hr, 2.5 lb/MMBtu
Authority for Requirement: Iowa DNR Construction Permits 02-A-628, 02-A-629, 02-A-630 02-A-631, 02-A-632
567 IAC 23.3(3)"b"

Pollutant: Nitrogen Oxides (NO_x)
Emission Limit(s): 52.6 lb/hr
Authority for Requirement: Iowa DNR Construction Permits 02-A-628, 02-A-629, 02-A-630 02-A-631, 02-A-632

(1) An exceedance of the indicator opacity of 20% will require the owner/operator to promptly investigate the emission unit and make corrections to operations or equipment associated with the exceedance. If exceedances continue after the corrections, the DNR may require additional proof to demonstrate compliance (e.g., stack testing).

Operational Limits & Requirements

The owner/operator of this equipment shall comply with the operational limits and requirements listed below.

Process throughput:

1. These units shall operate on diesel fuel only.
2. The sulfur content of the fuel used shall not exceed 0.05% by weight.
3. The total amount of fuel used by all engines at this site (GEN1 – GEN5) shall not exceed 174,000 gallons per twelve (12) month rolling period.

Reporting & Record keeping:

Records shall be kept on site for at least five years and shall be available for inspection by the Department.

1. The type of fuel used and sulfur content of the fuel.
2. Upon the issuance of this permit, calculate the combined total fuel usage for the engines at this site (GEN1 – GEN5) for the twelve (12) months previous to permit issuance.
3. After the issuance of the permit, calculate the combined cumulative fuel usage for the engines at this site (GEN1 – GEN5) on a rolling-12-month basis for each month of operation.

Authority for Requirement: Iowa DNR Construction Permits 02-A-628, 02-A-629, 02-A-630 02-A-631, 02-A-632

Emission Point Characteristics

Each emission point shall conform to the specifications listed below.

Stack Height, (ft, from the ground): 70
Stack Opening, (inches, dia.): 14
Exhaust Flow Rate (scfm): 5,600
Exhaust Temperature (°F): 900
Discharge Style: Vertical Unobstructed
Authority for Requirement: Iowa DNR Construction Permits 02-A-628, 02-A-629, 02-A-630 02-A-631, 02-A-632

The temperature and flow rate are intended to be representative and characteristic of the design of the permitted emission point. The Department recognizes that the temperature and flow rate may vary with changes in the process and ambient conditions. If it is determined that any of the emission point design characteristics are different than the values stated above, the owner/operator must notify the Department and obtain a permit amendment, if required.

Monitoring Requirements

The owner/operator of this equipment shall comply with the monitoring requirements listed below.

Agency Approved Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Facility Maintained Operation & Maintenance Plan Required? **Yes** ☐ **No** ☒

Compliance Assurance Monitoring (CAM) Plan Required? **Yes** ☐ **No** ☒

Authority for Requirement: 567 IAC 22.108(3)

IV. General Conditions

This permit is issued under the authority of the Iowa Code subsection 455B.133(8) and in accordance with 567 Iowa Administrative Code chapter 22.

G1. Duty to Comply

1. The permittee must comply with all conditions of the Title V permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for a permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. *567 IAC 22.108(9)"a"*
2. Any compliance schedule shall be supplemental to, and shall not sanction noncompliance with, the applicable requirements on which it is based. *567 IAC 22.105 (2)"h"(3)*
3. Where an applicable requirement of the Act is more stringent than an applicable requirement of regulations promulgated under Title IV of the Act, both provisions shall be enforceable by the administrator and are incorporated into this permit. *567 IAC 22.108 (1)"b"*
4. Unless specified as either "state enforceable only" or "local program enforceable only", all terms and conditions in the permit, including provisions to limit a source's potential to emit, are enforceable by the administrator and citizens under the Act. *567 IAC 22.108 (14)*
5. It shall not be a defense for a permittee, in an enforcement action, that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of the permit. *567 IAC 22.108 (9)"b"*

G2. Permit Expiration

1. Except as provided in 567 IAC 22.104, the expiration of this permit terminates the permittee's right to operate unless a timely and complete application has been submitted for renewal. Any testing required for renewal shall be completed before the application is submitted. *567 IAC 22.116(2)*
2. To be considered timely, the owner, operator, or designated representative (where applicable) of each source required to obtain a Title V permit shall present or mail the Air Quality Bureau, Iowa Department of Natural Resources, Air Quality Bureau, 7900 Hickman Rd, Suite #1, Urbandale, Iowa 50322, two copies (three if your facility is located in Linn or Polk county) of a complete permit application, at least 6 months but not more than 18 months prior to the date of permit expiration. An additional copy must also be sent to EPA Region VII, Attention: Chief of Air Permits, 901 N. 5th St., Kansas City, KS 66101. The application must include all emission points, emission units, air pollution control equipment, and monitoring devices at the facility. All emissions generating activities, including fugitive emissions, must be included. The definition of a complete application is as indicated in 567 IAC 22.105(2). *567 IAC 22.105*

G3. Certification Requirement for Title V Related Documents

Any application, report, compliance certification or other document submitted pursuant to this permit shall contain certification by a responsible official of truth, accuracy, and completeness. All certifications shall state that, based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete. *567 IAC 22.107 (4)*

G4. Annual Compliance Certification

By March 31 of each year, the permittee shall submit compliance certifications for the previous calendar year. The certifications shall include descriptions of means to monitor the compliance status of all emissions sources including emissions limitations, standards, and work practices in accordance with applicable requirements. The certification for a source shall include the identification of each term or condition of the permit that is the basis of the certification; the compliance status; whether compliance was continuous or intermittent; the method(s) used for determining the compliance status of the source, currently and over the reporting period

consistent with all applicable department rules. For sources determined not to be in compliance at the time of compliance certification, a compliance schedule shall be submitted which provides for periodic progress reports, dates for achieving activities, milestones, and an explanation of why any dates were missed and preventive or corrective measures. The compliance certification shall be submitted to the administrator, director, and the appropriate DNR Field office. *567 IAC 22.108 (15)"e"*

G5. Semi-Annual Monitoring Report

By March 31 and September 30 of each year, the permittee shall submit a report of any monitoring required under this permit for the 6 month periods of July 1 to December 31 and January 1 to June 30, respectively. All instances of deviations from permit requirements must be clearly identified in these reports, and the report must be signed by a responsible official, consistent with 567 IAC 22.107(4). The semi-annual monitoring report shall be submitted to the director and the appropriate DNR Field office. *567 IAC 22.108 (5)*

G6. Annual Fee

1. The permittee is required under subrule 567 IAC 22.106 to pay an annual fee based on the total tons of actual emissions of each regulated air pollutant. Beginning July 1, 1996, Title V operating permit fees will be paid on July 1 of each year. The fee shall be based on emissions for the previous calendar year.
2. The fee amount shall be calculated based on the first 4,000 tons of each regulated air pollutant emitted each year. The fee to be charged per ton of pollutant will be available from the department by June 1 of each year. The Responsible Official will be advised of any change in the annual fee per ton of pollutant.
3. The following forms shall be submitted annually by March 31 documenting actual emissions for the previous calendar year.
    a. Form 1.0 "Facility Identification";
    b. Form 4.0 "Emissions unit-actual operations and emissions" for each emission unit;
    c. Form 5.0 "Title V annual emissions summary/fee"; and
    d. Part 3 "Application certification."
4. The fee shall be submitted annually by July 1. The fee shall be submitted with the following forms:
    a. Form 1.0 "Facility Identification";
    b. Form 5.0 "Title V annual emissions summary/fee";
    c. Part 3 "Application certification."
5. If there are any changes to the emission calculation form, the department shall make revised forms available to the public by January 1. If revised forms are not available by January 1, forms from the previous year may be used and the year of emissions documented changed. The department shall calculate the total statewide Title V emissions for the prior calendar year and make this information available to the public no later than April 30 of each year.
6. Phase I acid rain affected units under section 404 of the Act shall not be required to pay a fee for emissions which occur during the years 1993 through 1999 inclusive.
7. The fee for a portable emissions unit or stationary source which operates both in Iowa and out of state shall be calculated only for emissions from the source while operating in Iowa.
8. Failure to pay the appropriate Title V fee represents cause for revocation of the Title V permit as indicated in 567 IAC 22.115(1)"d".

G7. Inspection of Premises, Records, Equipment, Methods and Discharges

Upon presentation of proper credentials and any other documents as may be required by law, the permittee shall allow the director or the director's authorized representative to:

1. Enter upon the permittee's premises where a Title V source is located or emissions-related activity is conducted, or where records must be kept under the conditions of the permit;
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;
3. Inspect, at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and
4. Sample or monitor, at reasonable times, substances or parameters for the purpose of ensuring compliance with the permit or other applicable requirements. *567 IAC 22.108 (15)"b"*

G8. Duty to Provide Information

The permittee shall furnish to the director, within a reasonable time, any information that the director may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee also shall furnish to the director copies of records required to be kept by the permit, or for information claimed to be confidential, the permittee shall furnish such records directly to the administrator of EPA along with a claim of confidentiality. *567 IAC 22.108 (9)"e"*

G9. General Maintenance and Repair Duties

The owner or operator of any air emission source or control equipment shall:

1. Maintain and operate the equipment or control equipment at all times in a manner consistent with good practice for minimizing emissions.
2. Remedy any cause of excess emissions in an expeditious manner.
3. Minimize the amount and duration of any excess emission to the maximum extent possible during periods of such emissions. These measures may include but not be limited to the use of clean fuels, production cutbacks, or the use of alternate process units or, in the case of utilities, purchase of electrical power until repairs are completed.
4. Schedule, at a minimum, routine maintenance of equipment or control equipment during periods of process shutdowns to the maximum extent possible. *567 IAC 24.2(1)*

G10. Recordkeeping Requirements for Compliance Monitoring

1. In addition to any source specific recordkeeping requirements contained in this permit, the permittee shall maintain the following compliance monitoring records, where applicable:
    a. The date, place and time of sampling or measurements
    b. The date the analyses were performed.
    c. The company or entity that performed the analyses.
    d. The analytical techniques or methods used.
    e. The results of such analyses; and
    f. The operating conditions as existing at the time of sampling or measurement.
    g. The records of quality assurance for continuous compliance monitoring systems (including but not limited to quality control activities, audits and calibration drifts.)
2. The permittee shall retain records of all required compliance monitoring data and support information for a period of at least 5 years from the date of compliance monitoring sample, measurement report or application. Support information includes all calibration and maintenance records and all original strip chart recordings for continuous compliance monitoring, and copies of all reports required by the permit.
3. For any source which in its application identified reasonably anticipated alternative operating scenarios, the permittee shall:

a. Comply with all terms and conditions of this permit specific to each alternative scenario.

b. Maintain a log at the permitted facility of the scenario under which it is operating.

c. Consider the permit shield, if provided in this permit, to extend to all terms and conditions under each operating scenario. *567 IAC 22.108(4), 567 IAC 22.108(12)*

G11. Evidence used in establishing that a violation has or is occurring.

Notwithstanding any other provisions of these rules, any credible evidence may be used for the purpose of establishing whether a person has violated or is in violation of any provisions herein.

1. Information from the use of the following methods is presumptively credible evidence of whether a violation has occurred at a source:

a. A monitoring method approved for the source and incorporated in an operating permit pursuant to 567 Chapter 22;

b. Compliance test methods specified in 567 Chapter 25; or

c. Testing or monitoring methods approved for the source in a construction permit issued pursuant to 567 Chapter 22.

2. The following testing, monitoring or information gathering methods are presumptively credible testing, monitoring, or information gathering methods:

a. Any monitoring or testing methods provided in these rules; or

b. Other testing, monitoring, or information gathering methods that produce information comparable to that produced by any method in subrule 21.5(1) or this subrule. *567 IAC 21.5(1)-567 IAC 21.5(2)*

G12. Prevention of Accidental Release: Risk Management Plan Notification and Compliance Certification

If the permittee is required to develop and register a risk management plan pursuant to section 112(r) of the Act, the permittee shall notify the department of this requirement. The plan shall be filed with all appropriate authorities by the deadline specified by EPA. A certification that this risk management plan is being properly implemented shall be included in the annual compliance certification of this permit. *567 IAC 22.108(6)*

G13. Hazardous Release

The permittee must report any situation involving the actual, imminent, or probable release of a hazardous substance into the atmosphere which, because of the quantity, strength and toxicity of the substance, creates an immediate or potential danger to the public health, safety or to the environment. A verbal report shall be made to the department at (515) 281-8694 and to the local police department or the office of the sheriff of the affected county as soon as possible but not later than six hours after the discovery or onset of the condition. This verbal report must be followed up with a written report as indicated in 567 IAC 131.2(2). *567 IAC Chapter 131-State Only*

G14. Excess Emissions and Excess Emissions Reporting Requirements

1. Excess Emissions. Excess emission during a period of startup, shutdown, or cleaning of control equipment is not a violation of the emission standard if the startup, shutdown or cleaning is accomplished expeditiously and in a manner consistent with good practice for minimizing emissions. Cleaning of control equipment which does not require the shutdown of the process equipment shall be limited to one six-minute period per one-hour period. An incident of excess emission (other than an incident during startup, shutdown or cleaning of control equipment) is a violation. If the owner or operator of a source maintains that the incident of excess emission was due to a malfunction, the owner or operator must show that the conditions which caused the incident of excess emission were not preventable by reasonable maintenance and control measures. Determination of any subsequent enforcement action will be made following review

of this report. If excess emissions are occurring, either the control equipment causing the excess emission shall be repaired in an expeditious manner or the process generating the emissions shall be shutdown within a reasonable period of time. An expeditious manner is the time necessary to determine the cause of the excess emissions and to correct it within a reasonable period of time. A reasonable period of time is eight hours plus the period of time required to shut down the process without damaging the process equipment or control equipment. In the case of an electric utility, a reasonable period of time is eight hours plus the period of time until comparable generating capacity is available to meet consumer demand with the affected unit out of service, unless, the director shall, upon investigation, reasonably determine that continued operation constitutes an unjustifiable environmental hazard and issue an order that such operation is not in the public interest and require a process shutdown to commence immediately.

2. Excess Emissions Reporting

a. Oral Reporting of Excess Emissions. An incident of excess emission (other than an incident of excess emission during a period of startup, shutdown, or cleaning) shall be reported to the appropriate field office of the department within eight hours of, or at the start of the first working day following the onset of the incident. The reporting exemption for an incident of excess emission during startup, shutdown or cleaning does not relieve the owner or operator of a source with continuous monitoring equipment of the obligation of submitting reports required in 567-subrule 25.1(6). An oral report of excess emission is not required for a source with operational continuous monitoring equipment (as specified in 567-subrule 25.1(1)) if the incident of excess emission continues for less than 30 minutes and does not exceed the applicable emission standard by more than 10 percent or the applicable visible emission standard by more than 10 percent opacity. The oral report may be made in person or by telephone and shall include as a minimum the following:

i. The identity of the equipment or source operation from which the excess emission originated and the associated stack or emission point.
ii. The estimated quantity of the excess emission.
iii. The time and expected duration of the excess emission.
iv. The cause of the excess emission.
v. The steps being taken to remedy the excess emission.
vi. The steps being taken to limit the excess emission in the interim period.

b. Written Reporting of Excess Emissions. A written report of an incident of excess emission shall be submitted as a follow-up to all required oral reports to the department within seven days of the onset of the upset condition, and shall include as a minimum the following:

i. The identity of the equipment or source operation point from which the excess emission originated and the associated stack or emission point.
ii. The estimated quantity of the excess emission.
iii. The time and duration of the excess emission.
iv. The cause of the excess emission.
v. The steps that were taken to remedy and to prevent the recurrence of the incident of excess emission.
vi. The steps that were taken to limit the excess emission.
vii. If the owner claims that the excess emission was due to malfunction, documentation to support this claim. *567 IAC 24.1(1)-567 IAC 24.1(4)*

3. Emergency Defense for Excess Emissions. For the purposes of this permit, an “emergency” means any situation arising from sudden and reasonably unforeseeable events beyond the control

of the source, including acts of God, which requires immediate corrective action to restore normal operation, and that causes the source to exceed a technology-based emission limitation under the permit due to unavoidable increases in emissions attributable to the emergency. An emergency shall not include non-compliance, to the extent caused by improperly designed equipment, lack of preventive maintenance, careless or improper operation or operator error. An emergency constitutes an affirmative defense to an action brought for non-compliance with technology based limitations if it can be demonstrated through properly signed contemporaneous operating logs or other relevant evidence that:

a. An emergency occurred and that the permittee can identify the cause(s) of the emergency;

b. The facility at the time was being properly operated;

c. During the period of the emergency, the permittee took all reasonable steps to minimize levels of emissions that exceeded the emissions standards or other requirements of the permit; and

d. The permittee submitted notice of the emergency to the director by certified mail within two working days of the time when the emissions limitations were exceeded due to the emergency. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken. *567 IAC 22.108(16)*

G15. Permit Deviation Reporting Requirements

A deviation is any failure to meet a term, condition or applicable requirement in the permit. Reporting requirements for deviations that result in a hazardous release or excess emissions have been indicated above (see G13 and G14). Unless more frequent deviation reporting is specified in the permit, any other deviation shall be documented in the semi-annual monitoring report and the annual compliance certification (see G4 and G5). *567 IAC 22.108(5)"b"*

G16. Notification Requirements for Sources That Become Subject to NSPS and NESHAP Regulations

During the term of this permit, the permittee must notify the department of any source that becomes subject to a standard or other requirement under 567-subrule 23.1(2) (standards of performance of new stationary sources) or section 111 of the Act; or 567-subrule 23.1(3) (emissions standards for hazardous air pollutants), 567-subrule 23.1(4) (emission standards for hazardous air pollutants for source categories) or section 112 of the Act. This notification shall be submitted in writing to the department pursuant to the notification requirements in 40 CFR Section 60.7, 40 CFR Section 61.07, and/or 40 CFR Section 63.9. *567 IAC 23.1(2), 567 IAC 23.1(3), 567 IAC 23.1(4)*

G17. Requirements for Making Changes to Emission Sources That Do Not Require Title V Permit Modification

1. Off Permit Changes to a Source. Pursuant to section 502(b)(10) of the CAAA, the permittee may make changes to this installation/facility without revising this permit if:

a. The changes are not major modifications under any provision of any program required by section 110 of the Act, modifications under section 111 of the act, modifications under section 112 of the act, or major modifications as defined in 567 IAC Chapter 22.

b. The changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or in terms of total emissions);

c. The changes are not modifications under any provisions of Title I of the Act and the changes do not exceed the emissions allowable under the permit (whether expressed therein as a rate of emissions or as total emissions);

d. The changes are not subject to any requirement under Title IV of the Act.

e. The changes comply with all applicable requirements.

f. For such a change, the permitted source provides to the department and the administrator by certified mail, at least 30 days in advance of the proposed change, a written notification, including the following, which must be attached to the permit by the source, the department and the administrator:

i. A brief description of the change within the permitted facility,

ii. The date on which the change will occur,

iii. Any change in emission as a result of that change,

iv. The pollutants emitted subject to the emissions trade

v. If the emissions trading provisions of the state implementation plan are invoked, then Title V permit requirements with which the source shall comply; a description of how the emissions increases and decreases will comply with the terms and conditions of the Title V permit.

vi. A description of the trading of emissions increases and decreases for the purpose of complying with a federally enforceable emissions cap as specified in and in compliance with the Title V permit; and

vii. Any permit term or condition no longer applicable as a result of the change. *567 IAC 22.110(1)*

2. Such changes do not include changes that would violate applicable requirements or contravene federally enforceable permit terms and conditions that are monitoring (including test methods), record keeping, reporting, or compliance certification requirements. *567 IAC 22.110(2)*

3. Notwithstanding any other part of this rule, the director may, upon review of a notice, require a stationary source to apply for a Title V permit if the change does not meet the requirements of subrule 22.110(1). *567 IAC 22.110(3)*

4. The permit shield provided in subrule 22.108(18) shall not apply to any change made pursuant to this rule. Compliance with the permit requirements that the source will meet using the emissions trade shall be determined according to requirements of the state implementation plan authorizing the emissions trade. *567 IAC 22.110(4)*

5. No permit revision shall be required, under any approved economic incentives, marketable permits, emissions trading and other similar programs or processes, for changes that are provided for in this permit. *567 IAC 22.108(11)*

G18. Duty to Modify a Title V Permit

1. Administrative Amendment.

a. An administrative permit amendment is a permit revision that is required to do any of the following:

i. Correct typographical errors

ii. Identify a change in the name, address, or telephone number of any person identified in the permit, or provides a similar minor administrative change at the source;

iii. Require more frequent monitoring or reporting by the permittee; or

iv. Allow for a change in ownership or operational control of a source where the director determines that no other change in the permit is necessary, provided that a written agreement containing a specific date for transfer of permit responsibility, coverage and liability between the current and new permittee has been submitted to the director.

b. The permittee may implement the changes addressed in the request for an administrative amendment immediately upon submittal of the request. The request shall be submitted to the director.

c. Administrative amendments to portions of permits containing provisions pursuant to Title IV of the Act shall be governed by regulations promulgated by the administrator under Title IV of the Act.

2. Minor Permit Modification.

a. Minor permit modification procedures may be used only for those permit modifications that do any of the following:

i. Do not violate any applicable requirements

ii. Do not involve significant changes to existing monitoring, reporting or recordkeeping requirements in the Title V permit.

iii. Do not require or change a case by case determination of an emission limitation or other standard, or increment analysis.

iv. Do not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement and that the source has assumed in order to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include any federally enforceable emissions caps which the source would assume to avoid classification as a modification under any provision under Title I of the Act; and an alternative emissions limit approved pursuant to regulations promulgated under section 112(i)(5) of the Act.;

v. Are not modifications under any provision of Title I of the Act; and

vi. Are not required to be processed as significant modification.

b. An application for minor permit revision shall be on the minor Title V modification application form and shall include at least the following:

i. A description of the change, the emissions resulting from the change, and any new applicable requirements that will apply if the change occurs.

ii. The permittee's suggested draft permit

iii. Certification by a responsible official, pursuant to 567 IAC 22.107(4), that the proposed modification meets the criteria for use of a minor permit modification procedures and a request that such procedures be used; and

iv. Completed forms to enable the department to notify the administrator and the affected states as required by 567 IAC 22.107(7).

c. The permittee may make the change proposed in its minor permit modification application immediately after it files the application. After the permittee makes this change and until the director takes any of the actions specified in 567 IAC 22.112(4) "a" to "c", the permittee must comply with both the applicable requirements governing the change and the proposed permit terms and conditions. During this time, the permittee need not comply with the existing permit terms and conditions it seeks to modify. However, if the permittee fails to comply with its proposed permit terms and conditions during this time period, existing permit term terms and conditions it seeks to modify may subject the facility to enforcement action.

3. Significant Permit Modification. Significant Title V modification procedures shall be used for applications requesting Title V permit modifications that do not qualify as minor Title V modifications or as administrative amendments. These include but are not limited to all significant changes in monitoring permit terms, every relaxation of reporting or recordkeeping permit terms, and any change in the method of measuring compliance with existing requirements. Significant Title V modifications shall meet all requirements of 567 IAC Chapter 22, including those for applications, public participation, review by affected states, and review by the administrator, and those requirements that apply to Title V issuance and renewal. *567 IAC*

22.111-567 IAC 22.113 The permittee shall submit an application for a significant permit modification not later than three months after commencing operation of the changed source unless the existing Title V permit would prohibit such construction or change in operation, in which event the operation of the changed source may not commence until the department revises the permit. *567 IAC 22.105(1)"a"(4)*

G19. Duty to Obtain Construction Permits

Unless exempted under 567 IAC 22.1(2), the permittee must not construct, install, reconstruct, or alter any equipment, control equipment or anaerobic lagoon without first obtaining a construction permit, conditional permit, or permit pursuant to 567 IAC 22.8, or permits required pursuant to 567 IAC 22.4 and 567 IAC 22.5. Such permits shall be obtained prior to the initiation of construction, installation or alteration of any portion of the stationary source. *567 IAC 22.1(1)*

G20. Asbestos

The permittee shall comply with 567 IAC 23.1(3)"a", and 567 IAC 23.2(3)"g" when activities involve asbestos mills, surfacing of roadways, manufacturing operations, fabricating, insulating, waste disposal, spraying applications, demolition and renovation operations, training fires and controlled burning of a demolished building. *567 IAC 23.1(3)"a", and 567 IAC 23.2*

G21. Open Burning

The permittee is prohibited from conducting open burning, except as may be allowed by 567 IAC 23.2. *567 IAC 23.2 <u>except</u> 23.2(3)"h"; 567 IAC 23.2(3)"h" - State Only*

G22. Acid Rain (Title IV) Emissions Allowances

The permittee shall not exceed any allowances that it holds under Title IV of the Act or the regulations promulgated there under. Annual emissions of sulfur dioxide in excess of the number of allowances to emit sulfur dioxide held by the owners and operators of the unit or the designated representative of the owners and operators is prohibited. Exceedences of applicable emission rates are prohibited. "Held" in this context refers to both those allowances assigned to the owners and operators by USEPA, and those allowances supplementally acquired by the owners and operators. The use of any allowance prior to the year for which it was allocated is prohibited. Contravention of any other provision of the permit is prohibited. *567 IAC 22.108(7)*

G23. Stratospheric Ozone and Climate Protection (Title VI) Requirements

1. The permittee shall comply with the standards for labeling of products using ozone-depleting substances pursuant to 40 CFR Part 82, Subpart E:
    a. All containers in which a class I or class II substance is stored or transported, all products containing a class I substance, and all products directly manufactured with a class I substance must bear the required warning statement if it is being introduced into interstate commerce pursuant to § 82.106.
    b. The placement of the required warning statement must comply with the requirements pursuant to § 82.108.
    c. The form of the label bearing the required warning statement must comply with the requirements pursuant to § 82.110.
    d. No person may modify, remove, or interfere with the required warning statement except as described in § 82.112.
2. The permittee shall comply with the standards for recycling and emissions reduction pursuant to 40 CFR Part 82, Subpart F, except as provided for MVACs in Subpart B:
    a. Persons opening appliances for maintenance, service, repair, or disposal must comply with the required practices pursuant to § 82.156.
    b. Equipment used during the maintenance, service, repair, or disposal of appliances must comply with the standards for recycling and recovery equipment pursuant to § 82.158.
    c. Persons performing maintenance, service, repair, or disposal of appliances must be

certified by an approved technician certification program pursuant to § 82.161.

d. Persons disposing of small appliances, MVACs, and MVAC-like appliances must comply with reporting and recordkeeping requirements pursuant to § 82.166. ("MVAC-like appliance" as defined at § 82.152)

e. Persons owning commercial or industrial process refrigeration equipment must comply with the leak repair requirements pursuant to § 82.156.

f. Owners/operators of appliances normally containing 50 or more pounds of refrigerant must keep records of refrigerant purchased and added to such appliances pursuant to § 82.166.

3. If the permittee manufactures, transforms, imports, or exports a class I or class II substance, the permittee is subject to all the requirements as specified in 40 CFR part 82, Subpart A, Production and Consumption Controls.

4. If the permittee performs a service on motor (fleet) vehicles when this service involves ozone-depleting substance refrigerant (or regulated substitute substance) in the motor vehicle air conditioner (MVAC), the permittee is subject to all the applicable requirements as specified in 40 CFR part 82, Subpart B, Servicing of Motor Vehicle Air Conditioners. The term "motor vehicle" as used in Subpart B does not include a vehicle in which final assembly of the vehicle has not been completed. The term "MVAC" as used in Subpart B does not include the air-tight sealed refrigeration system used as refrigerated cargo, or system used on passenger buses using HCFC-22 refrigerant,

5. The permittee shall be allowed to switch from any ozone-depleting substance to any alternative that is listed in the Significant New Alternatives Program (SNAP) promulgated pursuant to 40 CFR part 82, Subpart G, Significant New Alternatives Policy Program. *40 CFR part 82*

G24. Permit Reopenings

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition. *567 IAC 22.108(9)"c"*

2. Additional applicable requirements under the Act become applicable to a major part 70 source with a remaining permit term of 3 or more years. Revisions shall be made as expeditiously as practicable, but not later than 18 months after the promulgation of such standards and regulations.

a. Reopening and revision on this ground is not required if the permit has a remaining term of less than three years;

b. Reopening and revision on this ground is not required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions have been extended pursuant to 40 CFR 70.4(b)(10)(i) or (ii) as amended to June 25, 1993.

c. Reopening and revision on this ground is not required if the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. *567 IAC 22.108(17)"a", 567 IAC 22.108(17)"b"*

3. A permit shall be reopened and revised under any of the following circumstances:

a. The department receives notice that the administrator has granted a petition for disapproval of a permit pursuant to 40 CFR 70.8(d) as amended to June 25, 1993, provided that the reopening may be stayed pending judicial review of that determination;

b. The department or the administrator determines that the Title V permit contains a

material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the Title V permit;

c. Additional applicable requirements under the Act become applicable to a Title V source, provided that the reopening on this ground is not required if the permit has a remaining term of less than three years, the effective date of the requirement is later than the date on which the permit is due to expire, or the additional applicable requirements are implemented in a general permit that is applicable to the source and the source receives approval for coverage under that general permit. Such a reopening shall be complete not later than 18 months after promulgation of the applicable requirement.

d. Additional requirements, including excess emissions requirements, become applicable to a Title IV affected source under the acid rain program. Upon approval by the administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

e. The department or the administrator determines that the permit must be revised or revoked to ensure compliance by the source with the applicable requirements. *567 IAC 22.114(1)*

4. Proceedings to reopen and reissue a Title V permit shall follow the procedures applicable to initial permit issuance and shall effect only those parts of the permit for which cause to reopen exists. *567 IAC 22.114(2)*

G25. Permit Shield

1. The director may expressly include in a Title V permit a provision stating that compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that:

a. Such applicable requirements are included and are specifically identified in the permit; or

b. The director, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the source, and the permit includes the determination or a concise summary thereof.

2. A Title V permit that does not expressly state that a permit shield exists shall be presumed not to provide such a shield.

3. A permit shield shall not alter or affect the following:

a. The provisions of Section 303 of the Act (emergency orders), including the authority of the administrator under that section;

b. The liability of an owner or operator of a source for any violation of applicable requirements prior to or at the time of permit issuance;

c. The applicable requirements of the acid rain program, consistent with Section 408(a) of the Act;

d. The ability of the department or the administrator to obtain information from the facility pursuant to Section 114 of the Act. *567 IAC 22.108 (18)*

G26. Severability

The provisions of this permit are severable and if any provision or application of any provision is found to be invalid by this department or a court of law, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected by such finding. *567 IAC 22.108 (8)*

G27. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege. *567 IAC 22.108 (9)"d"*

G28. Transferability

This permit is not transferable from one source to another. If title to the facility or any part of it is transferred, an administrative amendment to the permit must be sought to determine transferability of the permit. *567 IAC 22.111 (1)"d"*

G29. Disclaimer

No review has been undertaken on the engineering aspects of the equipment or control equipment other than the potential of that equipment for reducing air contaminant emissions. *567 IAC 22.3(3)"c"*

G30. Notification and Reporting Requirements for Stack Tests or Monitor Certification

The permittee shall notify the department's stack test contact in writing not less than 30 days before a required test or performance evaluation of a continuous emission monitor is performed to determine compliance with an applicable requirement. For the department to consider test results a valid demonstration of compliance with applicable rules or a permit condition, such notice shall be given. Such notice shall include the time, the place, the name of the person who will conduct the test and other information as required by the department. Unless specifically waived by the department's stack test contact, a pretest meeting shall be held not later than 15 days prior to conducting the compliance demonstration. The department may accept a testing protocol in lieu of a pretest meeting. A representative of the department shall be permitted to witness the tests. Results of the tests shall be submitted in writing to the department's stack test contact in the form of a comprehensive report within six weeks of the completion of the testing. Compliance tests conducted pursuant to this permit shall be conducted with the source operating in a normal manner at its maximum continuous output as rated by the equipment manufacturer, or the rate specified by the owner as the maximum production rate at which the source shall be operated. In cases where compliance is to be demonstrated at less than the maximum continuous output as rated by the equipment manufacturer, and it is the owner's intent to limit the capacity to that rating, the owner may submit evidence to the department that the source has been physically altered so that capacity cannot be exceeded, or the department may require additional testing, continuous monitoring, reports of operating levels, or any other information deemed necessary by the department to determine whether such source is in compliance.

Stack test notifications, reports and correspondence shall be sent to:

Stack Test Review Coordinator
Iowa DNR, Air Quality Bureau
7900 Hickman Road, Suite #1
Urbandale, IA 50322
(515) 242-6001

Within Polk and Linn Counties, stack test notifications, reports and correspondence shall also be directed to the supervisor of the respective county air pollution program.

567 IAC 25.1(7)"a", 567 IAC 25.1(9)

G31. Prevention of Air Pollution Emergency Episodes

The permittee shall comply with the provisions of 567 IAC Chapter 26 in the prevention of excessive build-up of air contaminants during air pollution episodes, thereby preventing the occurrence of an emergency due to the effects of these contaminants on the health of persons. *567 IAC 26.1(1)*

G32. Contacts List

The current address and phone number for reports and notifications to the EPA administrator is:

Chief of Air Permits
EPA Region 7
Air Permits and Compliance Branch
901 N. 5th Street
Kansas City, KS 66101
(913) 551-7020

The current address and phone number for reports and notifications to the department or the Director is:

Chief, Air Quality Bureau
Iowa Department of Natural Resources
7900 Hickman Road, Suite #1
Urbandale, IA 50322
(515) 242-5100

Reports or notifications to the DNR Field Offices or local programs shall be directed to the supervisor at the appropriate field office or local program. Current addresses and phone numbers are:

Field Office 1
909 West Main – Suite 4
Manchester, IA 52057
(563) 927-2640

Field Office 2
2300-15th St., SW
Mason City, IA 50401
(641) 424-4073

Field Office 3
1900 N. Grand Ave.
Spencer, IA 51301
(712) 262-4177

Field Office 4
1401 Sunnyside Lane
Atlantic, IA 50022
(712) 243-1934

Field Office 5
401 SW 7th Street, Suite I
Des Moines, IA 50309
(515) 725-0268

Field Office 6
1023 West Madison Street
Washington, IA 52353-1623
(319) 653-2135

Polk County Public Works Dept.
Air Quality Division
5885 NE 14th St.
Des Moines, IA 50313
(515) 286-3351

Linn County Public Health Dept.
Air Pollution Control Division
501 13th St., NW
Cedar Rapids, IA 52405
(319) 892-6000

V. Appendix A: DNR Project #00-235

Appendix B: CAM Plans

Baghouse CAM Plan

Emission Points ST6, ST7, ST8, ST10, ST11, ST13, ST14, ST15, ST16, ST17, ST18, ST19, ST23, ST24, ST25, & ST32

Monitoring Approach

A. Indicator
Daily visible emission readings and weekly pressure drop checks will be used as indicators.

B. Measurement Approach
A trained employee familiar with normal process operations and the appearance of the exhaust from each source is responsible for observing and reading visible emissions on a daily basis.

Pressure drop will be checked weekly to ensure that no pressure drop of greater than 2 inches of H_2O below the recent normal operating range or a pressure drop greater than 5 inches of water occurs during the material handling operation of the unit.

C. Indicator Range
The presence of any visible emissions would be considered an excursion and trigger the operator to take corrective actions

Pressure drop of greater than 2 inches of H_2O below the recent normal operating range. Pressure drop should not exceed 5 inches of H_2O.

D. QIP (Quality Improvement Plan) Threshold
The QIP threshold is six excursions in a six month reporting period

E. Performance criteria

Data representativeness: Pressure drop of greater than 2 inches of H_2O below the recent normal operating range or an increase in pressure drop above 5 inches of water would indicate a decrease in the performance of the baghouse and potentially indicate an increase of particulate emissions.

The presence of any visible emissions from a properly maintained and operating baghouse is an appropriate indicator that a bag rupture or leak is occurring and that corrective action is necessary.

QA/QC practices and criteria: The facility shall check the pressure drop weekly when the emission unit on this emission point is in operation. If a pressure drop of greater than 2 inches of H_2O below the recent normal operating range or a pressure drop greater than 5 inches of water is observed, corrective action will be taken within 8 hours.

Employees performing visible emissions observations are trained on observing the source under the appropriate conditions (e.g. lighting, sun position, etc,) and have a detailed understanding of the proper operation of the affected sources The records of the emissions observations are periodically reviewed by the facility environmental coordinator to verify that the notations are being kept properly.

Monitoring frequency and Data collection procedure: The Weekly Baghouse Inspection Log is maintained electronically in an Operations Excel spreadsheet. The contents of the spreadsheet include control device number, the stack number, differential pressure, and record of any visible emissions. Records of pressure drop readings and visible emission readings will be maintained for five years.

CAM Plan for CD13 Sulfuric Acid Plant

Emission Point ST20

Monitoring Approach

A. Indicator
#2 Absorption Tower Inlet Acid Temperature – minimum 165 degrees Fahrenheit and maximum 195 degrees Fahrenheit.

#2 Absorption Tower Acid Strength – 98.2% to 98.7%

B. Calibration
Calibrations are performed in house by maintenance staff.

C. Record keeping & Reporting
Daily Emission System Log maintained electronically in PI System (record temperature, differential pressure, and acid strength readings four (4) times per hour and hourly average).

D. If hourly averages are outside of range
Immediately investigate to find the reason for the excursion. Corrective action will be taken within 8 hours to return to the normal operating range.

E. Performance Criteria

Verification of operational status:	Records of #2 Absorption Tower Inlet Acid Temperature and #2 Absorption Tower Acid Strength will be maintained for five years.
QA/QC practices and criteria:	The facility shall check the #2 Absorption Tower Inlet Acid Temperature and #2 Absorption Tower Acid Strength four (4) times per hour averaged hourly when the emission unit on this emission point is in operation.
Monitoring frequency and data Collection procedure:	Records of the readings shall be maintained for five years.

CAM Plan for CD15 Electrostatic Precipitator (ESP)

Emission Point ST25

I. Background

The MoS_2 precipitator is a unique in that it was specifically designed for Climax. This precipitator does not accumulate dust so there is no dust buildup and no plate alignment either. It has a single wire centered in a tube. This unit does not have a hopper because the oil drops down into drums mounted at the bottom of the tubes. Instead of a penthouse, there are compartments that house the high voltage insulators. There are no rappers associated with this unit.

A Emission Unit

Description:	Emission Point ST25: Molysulfide (MoS_2) Kiln
Identification:	Emission Unit: W3
	Control Equipment: CD15 (Electrostatic Precipitator)
	Control Equipment Manufacturer: Bilirck Inc.
	Control Equipment Installation Date: May 1994
Facility:	Climax Molybdenum Company
	Plant Number 56-02-021

B. Applicable Regulation, Emission Limit, and Monitoring Requirements

Regulation No:	Iowa DNR Construction Permit 94-A-001-S3
	567 IAC 23.3(2)"a", 567 IAC 23.3(2)"d"
Emission Limit or Standard:	0.1 gr/scf PM; 0.38 lb/hr PM10; 40% opacity
Current Monitoring Requirement:	Stack Testing
	Agency Approved O & M Plan
	567 IAC 22.108(3)"b"

II. Monitoring Approach

A. General Monitoring Guidelines

1. CAM involves the observation of control equipment compliance indicators: voltage and amperage to the precipitator. This plan defines acceptable ranges for these indicators. CAM also includes monitoring and control equipment maintenance and inspections. Maintenance and inspections that will facilitate consistent monitoring and control equipment operations are identified in this plan.
2. Voltage and amperage monitoring is not required during periods of time greater than one day in which the source does not operate.

B. Compliance Indicator Ranges

An excursion is defined as:

1. Opacity: greater than 0%, with the exception of start-up, shutdown and cleaning.
2. Primary voltage at or below 20V for greater than two hours
3. Primary amperage at or above 20 Amps for greater than two hours

C. Excursion from Compliance Indicators

1. An excursion occurs when an observed compliance indicator is outside of its defined acceptable indicator range. An excursion does not necessarily indicate a violation of applicable permit terms, conditions, and/or requirements. However, an excursion is a deviation that must be reported in the Semi-Annual Monitoring Report and Annual Compliance Certification Report.
2. Corrective actions will begin as soon as possible, but no later than eight hours from the observation of the excursion. Abnormal conditions discovered through equipment inspection and maintenance requires implementation of remediation within a reasonable timeframe.
3. Opacity shall be observed on a weekly basis to ensure that no visible emissions occur during the material handling operation of the unit. If visible emissions are observed, corrective actions will be taken as soon as possible, but no later than eight hours from the observation of visible emissions. If corrective actions do not return the compliance indicator to its defined acceptable indicator range, then a Method 9 observation will be required. If weather conditions prevent the observer from conducting an opacity observation, the observer will note such conditions on the data observation sheet. At least three attempts will be made to retake the opacity readings at approximately 2-hr intervals throughout the day. If all observation attempts for a week have been unsuccessful due to weather, an observation shall be made the next operating day where weather permits.
4. Report monitoring or other deviations (operating conditions, emission limits, or reporting requirements) in IDNR Semi-annual Monitoring and Annual Compliance Certification reports.

D. Measurement Approach

1. Opacity shall be observed using EPA Method 22.

2. Primary voltage and amperage will be measured and displayed on visual readouts and recorded electronically on the facility's PI system.

III. Quality Improvement Plan

A Quality Improvement Plan (QIP) will be required to submit to the IDNR if an accumulation of excursions of either the opacity indicator or the power indicator exceeds 5 percent of the ESP's normal operating time for a 6-month reporting period. All the requirements in 40 CFR 64.8(b) shall be fulfilled if a QIP plan is required.

IV. Quality Assurance/Quality Control

A. Monitoring Methods

Daily

Check the control on PI system.

Weekly

Opacity readings.

Monthly

1. Remove and clean the wires and weights.
2. Clean the compartments that house the high voltage insulators.
3. Check fluid level of the Transformer-Rectifier (TR) set.

B. Audible ESP Malfunction Alarm

An audible alarm from SQ300 will alarm when the following conditions occur:

1. Primary over current alarm is 20 Amps
2. Primary under voltage alarm is 20 Volts
3. Secondary over current alarm is 75 MA
4. Secondary under voltage alarm is 15 KV

Corrective actions will be implemented upon the occurrence of a malfunction alarm.

C. Data Collection Procedures

Operators record monitoring readings and observations weekly on a data log.

D. Record Keeping and Reporting (Verification of Operational Status)

1. The voltages and amps are displayed on the main control panel for the ESP and on the facility's PI system. Voltage or amperage readings outside of recent normal operating ranges could indicate a decrease in the performance of the ESP and potentially an increase in particulate emissions.
2. Opacity reports and supporting data will be kept for five years.
3. Records of all planned unit outage inspections and any actions resulting from these inspections will be kept for five years.
4. All excursions will be reported in semi-annual monitoring reports and annual compliance certifications.

CAM Plan for CD17 Scrubber

Emission Point ST25

Monitoring Approach

A. Indicator
   pH – 6-9

B. Calibration
   Calibration of the pH monitor is completed on a monthly basis

C. Record Keeping & Reporting
   Daily pH maintained electronically in PI System.

   Preventative maintenance and required maintenance, including gauge calibration are initiated through maintenance work order system (Ellipse).

D. If indicators being monitored are outside of their range
   Immediately investigate to find the reason for the excursion. Corrective action will be taken within 8 hours to return the point that was out of normal range to normal.

   Evaluate the situation for remedies.

   Take necessary action to return the item to its indicator range.

   The QIP threshold is six excursions in a six month reporting period